REMARKS

In the Office Action mailed May 8, 2001, the Examiner objected to drawing figures 2A and 2B as not being clearly understood. In addition, the Examiner rejected claims 8-17 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Finally, the Examiner rejected claims 1 through 17 under 35 U.S.C. § 102(b) as being anticipated by Sturner et al. (U.S. Patent No. 5,303,327). Applicant traverses the rejections and requests reconsideration. A marked up version of the amended claims is attached to this response pursuant to 37 CFR 1.121 as Appendix A.

I. Objection to the Drawings

As noted above, the Examiner objected to drawing Figures 2A and 2B as not being clearly understood. To the extent that the informal drawings are unclear, applicant submits herewith formal drawings including formal drawing figures 2A and 2B. Reference numbers have been added to further clarify Figures 2A and 2B.

As noted in the Detailed Description of the Presently Preferred Embodiment(s), "Figures 2A and 2B illustrate a set of instructions for a subject and a set of tasks that require the subject to provide spoken responses, respectively. P.8, lns. 1-2. Thus, the general instructions for the test are provided in Figure 2A. An illustrative set of tasks is presented in Figure 2B. The set of tasks in Figure 2B are further explained in the Detailed Description at page 8, lines 7-20 and 22-24.

As further noted in the Detailed Description, when the set of tasks is provided to the subject in written form, the set of tasks may be printed in the form of a booklet or brochure. Pg. 7, lines 10-11. Figures 2A and 2B provide an example of such an embodiment. Thus, applicant submits that drawing figures 2A and 2B are clearly presented in conjunction with the corresponding portions of the detailed description.

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II. Rejection under 35 U.S.C. § 101

The Examiner rejected claims 8 through 17 as being directed to non-statutory subject matter. In particular, the Examiner noted that while the disclosed invention has a practical application, the claims are not limited to a practical application. Claim 8 has been amended to recite a practical application; namely, to form a subject score "reflecting at least one of a linguistic ability and a cognitive ability of the subject." Claims 14, 16 and 17 have also been amended to recite a practical application. In particular, claim 14 has been amended to recite the practical application of forming a subject score "reflecting at least one of a linguistic ability and a cognitive ability of the subject." Claim 16 has been amended to recite the practical application of "reducing the graded responses to a set of item difficulties, said item difficulties normalizing the items by reflecting an ability of the automatic grader to accurate grade the set of responses. And, claim 17 recites the practical application of "normalizing the items to provide an accurate assessment." Applicant therefore submits that claims 8 through 17, as amended, are directed to statutory subject matter.

III. Rejection under 35 U.S.C. § 102

The Examiner rejected claims 1 through 17 as being anticipated by Sturner et al. (U.S. Patent No. 5,303,327). Because Sturner et al. fails to show, or even suggest, all of the claimed features of the invention, the subject matter of claims 1 through 17 is patentable over Sturner et al.

A. Sturner's Communication Test System

Sturner shows a communication test system in which "verbal auditory stimuli" are

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presented to a subject. In the examples described by Sturner, an operator listens to the subject's spoken responses to the stimuli, when an expressive response is requested, or the operator observes the subjects physical indication of comprehension, when a receptive response is required. The spoken responses are scored by the operator and input into a storage device, such as a memory associated with a personal computer. See Col. 12, lines 7-15 and Col. 5, lines 4-21. The "scoring means" described at Col. 5, lines 4-21, appears to be merely a template that is provided to the operator for recording the detection of linguistic forms in the spoken response.

Receptive responses are scored in some manner by the computer, e.g. Col. 12, lines 13-15, although Figure 3C suggests that the operator may override the computer score. In the examples provided, in which the receptive response means that the subject identifies a scene corresponding to the stimuli from a plurality of scenes using a touch screen, the scoring is either a score of 1 (correct response) or a score of zero (incorrect response). Col. 12, lines 17-24.

Sturner also suggests that the operator's functions "may be entirely automated through the incorporation of speech recognition apparatus." Col. 6, lines 61-64. But, Sturner fails to even suggest that this change may effect scoring.

Sturner, therefore, fails to show the subject matter of claims 1 through 17. Specifically, Sturner fails to show a scoring computation that accounts for inaccuracies of the speech recognition system itself. As noted in the Detailed Description of the present application:

> The subject score 70, in which the item scores 60 are combined by using a scoring computation model that depends upon the expected item-dependent operating characteristics of the speech recognition system 20, provides a better measure of the subject's ability than does the item score 60. In particular, the subject score 70 includes item scores 60 that are properly weighted with regard to both the item's relevance to the assessment and to the accuracy with which the speech recognition system operaters on the item or its elements .... By normalizing the problem of

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the speech recognition system 20 incorrectly recognizing the items in the subject's response, the subject's ability can be more accurately assessed. Page 16, lines 3-12.

Details on shortcomings of Sturner vis-a-vis specific claims are set forth below.

B. Claims 1 through 6

Claim 1 has been amended to expressly recited that the scoring computation model that depends upon an expected item-dependent operating characteristic of the speech recognition systems includes "the associated accuracy of the speech recognition system." As noted above, Sturner merely suggests the use of a speech recognition apparatus in place of a human operator.

Sturner fails to show that such a modification may affect a scoring computation model in any manner, much less the manner recited in claim 1. Nor does Sturner show or even suggest that scoring errors by the human operator may be accounted for in some manner. Therefore, Sturner fails to anticipate the subject matter of claim 1.

Claims 2 through 6 depend from claim 1. The allowance of claims 2 through 6 will follow directly from the allowance of claim 1. In addition, the dependent claims recite features that are not shown in Sturner. For example, claim 4 recites that "the scoring computation model is constructed from a plurality of responses provided by a number of native and non-native speakers." Sturner, on the other hand, appears to suggest multiple models from uniform samples of members of the group to which the subject belongs. Such additional features provide an additional independent basis for patentability of the claimed subject matter.

C. Claim 7

Claim 7 expressly recites a scoring method "wherein the subject score accounts for an ability of the speech recognition system to accurately recognize the spoken responses." Sturner

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is entirely lacking on this point as it makes no reference to accounting for the accuracy of the speech recognition system itself. Because this element is completely lacking from Sturner, the subject matter of claim 7 is not anticipated by Sturner.

D. Claims 8 through 13

Claim 8 has been amended to expressly recite that the "performance measurement associated with an automatic device that measures task performance" relates to "a measure of an ability of the automatic device to accurately recognize responses to the set of tasks." As noted above, Sturner merely mentions use of an automated speech recognition apparatus, but fails to show any method that "generates a performance measurement associated with an automatic device," much less a performance measurement relating to "a measure of the accuracy of the automatic device." Accordingly, Sturner fails to anticipate the subject matter of claim 8.

Claims 10 through 13 depend ultimately from claim 8. The allowance of claims 10 through 13 will therefore follow directly from the allowance of claim 8.

E. Claims 14 through 17

Claims 14, 16 and 17 are independent and claim 15 depends from claim 14. Each expressly recites at least one feature that is not shown by Sturner. In particular, claim 14 recites a difficulty value based, in part, upon "a performance measure associated with an ability of the automated device to accurately assess performance of the task." Claim 16 recites "item difficulties reflecting an ability of the automatic grader to accurately grade the set of responses." And, claim 17 recites "item difficulties including a measurement of accuracy for the act of automatically grading the set of responses." None of these claimed features are shown, or even suggested by Sturner. The subject matter of claims 14 through 17 is therefore not anticipated by

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Sturner.

IV. Conclusion

In light of the foregoing, Applicant submits that the application is now in condition for allowance and notice to that effect is hereby requested. If the Examiner believes that further dialogue would facilitate allowance of the application, he is invited to telephone the undersigned at (312) 913-0001.

Respectfully submitted,
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